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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,520	05/11/2001	Stephen Temple	27754/21717	6788

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EXAMINER

TUGBANG, ANTHONY D

ART UNIT	PAPER NUMBER
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3729

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,520

Applicant(s)

TEMPLE ET AL.

Examiner

Dexter Tugbang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2002.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 16-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15,23-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed 11/15/02 (Paper No. 10) has been fully considered and made of record.

Election/Restriction

2. This application contains Claims 16-22 drawn to an invention nonelected with traverse in Paper No. 8. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, 6-8, 10-15, 23 and 24 are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent Publication, EP 0 839 656, referred to hereinafter as EP'656.

EP'656 (noting Figures 17(A) – 17(H)) discloses a component of a droplet deposition apparatus comprising: attaching a body of piezoelectric material 2 to a surface of a base 4; depositing a layer of conductive material 8, 10 so as to extend continuously over channel surfaces and the surface of the base to provide an electrode 8a, 8b, 8c on each of the channel

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surfaces and a conductive track 10a, 10b, 10c on the surface of the base, which meets all of the limitations of the claimed invention.

Regarding Claim 6, the claimed "land" is read as the material that is removed on the piezoelectric body 2 and the electrode material of 8 and 10 that is removed.

Regarding Claim 14, EP'656 shows (in Fig. 17D) chamfering the body 4 on the left side edge of the body 2 and base 4, which meet an obtuse angle.

Regarding Claim 15, EP'656 also teaches the claimed "adhesive" (see col. 14, lines 1-5).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 5, 9 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over EP'656 in view of Yasuda et al 5,347,712.

EP'656, as relied upon above, teaches substantially all of the limitations of the claimed manufacturing method except the use of a laser beam to vaporize the conductive material and the use of a mask or masking to pattern the conductive material.

Yasuda teaches the use of a mask 19 (in Fig. 2E) and a laser beam (see col. 2, lines 6-9) to pattern conductive material on a body 13, 15, 16 for the advantages of having high-density wiring (see col. 3, lines 13-15).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the method of EP'656 by including the use of the mask and laser beam, as taught by Yasuda, to advantageously pattern the conductive material and provide high-density electrical wiring.

Response to Arguments

7. Applicant's arguments filed 11/15/02 (Paper No. 10) have been fully considered, but have not been deemed to be found as persuasive.

In regards to the merits of EP'656, the applicants' contend that EP'656 does not each depositing a layer of conductive material to form an electrode that extends continuously over both the plurality of channel surfaces in the body and the surface of the base to which the body is attached. That EP'656 discloses no deposition steps after formation of the channels.

The examiner most respectfully disagrees. The limitation in Claim 1 of "over at least one of" (line 6) only requires the conductive material to be deposited over either the channel surfaces, or the surface of the base, not both at the same time. For further clarification, the applicants are referred to EP'656 Figures 17B and 17C. EP'656 clearly deposits a layer of conductive material 8, 10 continuously, or as a continuous layer, over the surface of the base 4, which subsequently, channel surfaces are formed. The examiner agrees with applicants' that the channel surfaces of EP'656 are formed after the conductive material is deposited. However, the rejected claims do not require that the conductive material be deposited after the channels are formed. While the preamble may require that the channel surfaces be formed at some point with the recitation of "a plurality of channels each with a channel surface" (line 3 of Claim 1), the

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body of the claims do not recite any positive, active steps as to forming of any channels with channel surfaces, more particularly any relative order of steps interconnecting when the channels are formed relative to depositing the conductive material. The limitations recited in the body of the claims do not depend upon the preamble for completeness and the process steps are able to stand-alone. *In re Hirao*, 535 F.2d 67 190 USPQ 15 (CCPA 1976). Moreover, the limitation of “so as to” (line 6 of Claim 1) can imply that at some future event, the channels with channels surfaces can be formed after depositing a conductive material. In other words, the features upon which applicant relies (i.e., deposition of the conductive material after the formation of the channels) are not recited in the rejected claim(s) and it appears that the applicants are arguing more specifically than that which is claimed. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

With respect to Claim 6, the claimed “land” is read as the material being removed on the piezoelectric body 2 and the conductive material is read as the electrode material 8, 10 that is removed. The land would then be material that is removed that this removed material is defined between neighboring channels on the body 2.

With respect to Claim 14, the end of the ejection channel with which the applicants’ refer to as the chamfer, is where the conductive material 8, 10 provide regions which overlie the body 2 and base 4 respectively, and which meet at an obtuse angle.

With respect to Claim 15, the adhesive of EP’656 serves as a key to bond the entire piezoelectric ink jet head. Thus, the adhesive EP’656 utilizes would therefore, serve as a key for the deposited layer of conductive material.

It is noted that regarding Claims 6, 14 and 15, EP'656 fully satisfies these limitations and that further limitations are needed to distinguish the applicants' invention over EP'656.

Regarding the combination of EP'656 with Yasuda et al, the applicants' have not provided any reasoning as to why Yasuda would be non-obvious with EP'656. Applicants' arguments appear to hinge sole patentability on the merits of EP'656.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

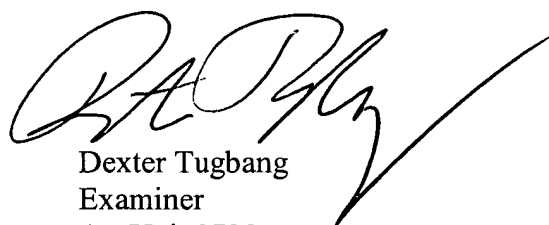
9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dexter Tugbang whose telephone number is 703-308-7599. The examiner can normally be reached on Monday - Friday 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter Vo can be reached on 703-308-1789. The fax phone numbers for the

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organization where this application or proceeding is assigned are 703-305-3590 for regular communications and 703-305-3588 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0858.



Dexter Tugbang
Examiner
Art Unit 3729

adt
February 8, 2003